

CMPT 120

Lecture 16 – Practice Exam 4

Try to answer the questions 1st without using your computer, then confirm your answer using IDLE!

Theory and Understanding

Question 1 - Which of the following is true about the import statement?

- a. It makes random variables.
- b. You may need to import the same module multiple times in a file.
- c. It loads a module to add functionality to the program.
- d. It creates a module with several functions.
- e. None of the above.
- **Question 2 -** Which of the following statements is true about **Boolean values** and **Boolean** expressions?
 - a. Boolean expressions can be combined with or and and.
 - b. Boolean expressions are used in conditional statements.
 - c. Boolean values can be True or False.
 - d. All of the above.
 - e. None of the above.

Question 3 - What does it mean to initialize a variable?

- a. Set the variable to 0.
- b. Set the variable to 1.
- c. Set the variable to a number.
- d. Set the variable to a string.
- e. None of the above.

Question 4 - What is an algorithm? Select the most specific answer.

- a. Comments in a Python program.
- b. A sequence of steps to solve a problem.
- c. The input and output of a Python program.
- d. A programming language.
- e. None of the above.

What does this syntactically correct code fragment output?

```
num_pizzas = 2
num_pop = 0
for i in range(num_pizzas):
    num_pop += 10
if num_pop > num_pizzas:
    num_pizzas += 1
print(F"Your order: {num_pizzas} pizza(s), {num_pop} pop.")
```

```
a. Your order: 20 pizza(s), 2 pop.
b. Your order: 2 pizza(s), 20 pop.
c. Your order: 3 pizza(s), 20 pop.
d. Your order: 3 pizza(s), 10 pop.
e. None of the above.
```

What does this syntactically correct code fragment output?

```
ratings = [10, 10, 8, 4, 7]
best = 0
for rating in ratings:
  if rating > best:
    best = rating
if best > 10:
  print("Error!")
else:
  print(best)
 a.10
 b.8
 c. Error!
 d.best
 e. None of the above.
```

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Do these two syntactically correct Python code fragments produce the same result?

```
grade = 78
                           qrade = 78
if grade < 60 :
                           if qrade < 60 :
 print("F")
                             print("F")
                          elif grade < 70 :
else :
  if qrade < 70 :
                             print("D")
    print("D")
                          elif grade < 80 :
  else :
                             print("C")
    if grade < 80 :
                          elif grade < 90 :
     print("C")
                             print("B")
    else :
                           else :
      if grade < 90 :
                             print("A")
       print("B")
      else :
        print("A")
```



Do these two syntactically correct Python code fragments produce the same result?

grade = 78	grade = 78
if grade < 60 : print("F")	if grade < 60 : print("F")
elif grade < 70 :	if grade < 70 :
print("D")	print("D")
elif grade < 80 :	if grade < 80 :
print("C")	print("C")
elif grade < 90 :	if grade < 90 :
print("B")	print("B")
else :	else :
print("A")	print("A")

Coding —

Try to solve the problem (i.e., write your Python program) 1st on a piece of paper without using your computer!

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Problem Statement:

 Write a Palindrome function that returns True if the given word is a palindrome and False it the given word is not a palindrome.

• Requirements:

- You cannot use any of the string methods that would reverse a string in one function call.
- But you can index and slice your strings and you can use len (...).

Question 10 – Tic Tac Toe

Problem Statement:

Write a Turtle program that draws a Tic Tac
 Toe board on the Turtle canvas.

Requirements:

 Your program must do this by calling our drawSquare function found in the program called DrawSquare.py which is posted under Lecture 15 on Canvas. Copy and paste this function in your program.

Question 10 – cont'd

• Instructions:

- 1. Have a look at Slide 9 of Lecture 15 on our course web site. You will find a drawing of the Python canvas and its underlying cartesian coordinate system.
 - I find this type of drawing very useful when I need to move the turtle around the canvas.
- 2. Draw a similar drawing, i.e., draw the Python canvas and its underlying cartesian coordinate system on a piece of paper.
- 3. Draw your turtle at the centre of your Python canvas, i.e., at (0,0) (facing east). This is the default starting position of a turtle.
- 4. Draw the **Tic Tac Toe board** you want to produce on the Turtle canvas. You can draw the board such that your turtle is at its center or at another location.
 - In order to draw your Tic Tac Toe board, you will need to decide the size of your squares.
- 5. Then figure out the coordinates at which you need to move your turtle (using goto()) so it can start drawing one of the squares of the **Tic Tac Toe board** then call the **drawSquare(...)** function.
- 6. Repeat the above step (Step 5.) for all the other 8 squares of your **Tic Tac Toe board**.
- 7. Remember: do not repeat code! ©